Fact Sheets

SRS

Miscellaneous Chemicals Basin/Metals Burning Pit

Background

The Miscellaneous Chemicals Basin/Metals Burning Pit (MCB/MBP) is located in the northwest portion of the Savannah River Site (SRS), approximately 1.5 miles south of the A/M-Area and three miles east of the SRS boundary. Although exact basin boundaries have not been determined, the MCB was approximately 20-feet long by 20-feet wide and approximately one foot deep. The MBP was irregular in shape with approximate dimensions of 400-feet long by 400-feet wide. Waste materials were piled three to six feet high within the pit.

The MCB received liquid chemical wastes and is located in an old shallow borrow pit. Photographs indicate that the basin was in use from about 1956 to 1974. The basin was re-graded in 1974, and is currently covered by weeds, grasses, and pine trees.

The MBP was a cleared area used for burning lithium-aluminum alloys and scrap and cuttings from the A/M operations. Site photographs indicate the pit was typically used for the disposal of metal shavings, pieces of aluminum, plastic pipe, metal drums, and other miscellaneous scrap. The MBP was placed in service in 1960 and taken out of service in 1974. At that time, the waste piles were re-graded with native soil, and the area was allowed to re-vegetate. Weeds, grasses, and small pine trees currently cover the site.

Environmental Concerns

The nature and extent of contamination at the MCB/MBP were determined during a two-phased investigation that included soil, sediment, and groundwater sampling and analyses. Both traditional and innovative technologies were deployed to obtain quality data from the subsurface hydrogeologic/hydrologic soil, sediment, and groundwater. Technologies utilized in the investigation included soil gas surveying, soil coring, groundwater well monitoring, cone penetrometer testing and seismic imaging.

Results from the two phases of investigation were published in a Remedial Feasibility Investigation/Remedial Investigation and Baseline Risk Assessment document. Results indicate the presence of volatile organic compounds, primarily trichloroethylene and tetrachloroethylene, in the vadose zone and groundwater. Subsurface soil contaminants include polychlorinated biphenyls, dioxins and furans.

Environmental Actions and Plans

In August 1996, SRS voluntarily initiated vadose remediation at the MCB to prevent further migration of contaminants to the underlying groundwater aquifers. The Barometric Pumping Well System, an innovative and cost-effective technology, is being used in conjunction with the SRS-patented BaroBall check-valve to remove contaminated soil vapor. The U.S. Environmental Protection Agency (USEPA) and the South Carolina Department of Health and

Environmental Control (SCDHEC) approved the installation of a Soil Vapor Extraction (SVE) Unit as a supplement to the Barometric Pumping Well System. The extraction unit will accelerate remediation in the area of highest soil vapor contamination.

SRS is currently implementing other remedial actions to streamline and accelerate the cleanup of surface soil, sediment, and groundwater contamination in the MCB and MBP waste units. The USEPA and SCDHEC have approved these actions as an Interim Action based on the site's interim proposed plan and the approved Interim Record of Decision (ROD).

The Interim ROD was approved in January 2000. The Interim Remedial Action (RA) was initiated in February 2000. The selected remedy addresses the known areas of contamination in the soils and vadose zone, while further investigating the groundwater and considering additional alternatives for the groundwater that will achieve final remedial objectives. The actions identified to address the soils and vadose zone are final actions, while the actions for the groundwater contamination are considered interim. The selected interim actions include soil excavation and off-site disposal with institutional controls for the surface and subsurface soils, active SVE and passive SVE for the vadose zone soils, and in-situ air stripping and monitoring for the groundwater. The soil excavation and removal was completed in October 2000. The active SVE system was completed and placed into service in September 2001. The installation of the in-situ air stripping system was completed and placed into operation in February 2002.